

**Statement of
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Before the
Subcommittee on Oversight and Investigations
Committee on Veterans' Affairs
House of Representatives
April 28, 2004**

Mr. Chairman and Members of the Subcommittee:

I speak to you today in a dual role. For 27 years I have been Associate Chief of Staff (ACOS) for Research at McGuire VA Medical Center in Richmond. I am also Director of the Diabetes Health Center at McGuire, which is one of VA's two designated Centers of Excellence in Diabetes. I am going to confine my remarks to how ongoing research intersects with the day-to-day care of patients in the Diabetes Health Center, which is our main concern.

Ten years ago, 14% of the veterans who received outpatient prescription medications at McGuire received medications for diabetes; today it is 24%, and next year it will be more. To give you some idea of the economic impact, this 24% of our patients is responsible for 44% of our total outpatient expenditures for drugs. (The 44% figure includes both diabetes medications and medications for other conditions.) As our population ages and the rate of obesity continues to rise, the economic impact of diabetes will continue to grow. Well over half the heart attacks in this country occur in people who have either diabetes or its precursor, which is known as "insulin resistance syndrome" or "metabolic syndrome." Most heart attacks among type 2 diabetics, like the other complications of diabetes, should be preventable. However, because there are so many type 2 diabetics, prevention becomes challenging.

The main reason I have practiced in the VA for 30 years is that I feel VA is a particularly favorable place for giving good diabetes care. Among our advantages are the computerized patient record; the fact that we keep our patients for many years; and the veterans themselves, who are a particularly rewarding group to deal with and who,

in my opinion, participate in their care more diligently than the average private sector patient population.

I'd like to address how research fits into our busy clinical operation. I will limit my remarks exclusively to what we are doing in Richmond; many other VA medical centers have analogous stories. The VA research program covers a wide spectrum of studies, from basic physiology to clinical studies to new structures of care delivery, and all these studies are patient-focused. The most basic VA projects grow out of what we see clinically every day. For example, the fundamental driver of the increased prevalence of diabetes is our society's epidemic of obesity. My colleague, Dr. James Levy, runs our weight management program at McGuire, and his primary concern is preventing people from regaining the weight they have lost. This has led him to study the regulation of secretion and action of leptin, the hormone from fat cells that is an important regulator both of appetite and of energy expenditure. His studies in rodents have already produced some unexpected findings; for example, rats greatly increase their energy expenditure when they are fed omega-3 fatty acids (from fish oil). I doubt that many of us would ever think of feeding fish oil to rats; the idea came from a few patients with metabolic syndrome who were treated with fish oil for their high plasma triglycerides and whose fatty livers unexpectedly improved. This is an example of basic research flowing directly from clinical care.

Turning to clinical research, there are many therapeutic studies on all aspects of diabetes. To take just one example, the VA Diabetes Trial is a cooperative study at 20 VA medical centers testing whether extremely tight blood sugar control reduces the incidence of heart attacks and strokes in type 2 diabetics. In terms of how people are actually treated, this may be the most important unanswered question in diabetes today. The biggest medical problem confronting the older type 2 diabetic is coronary heart disease, and our studies so far do not clearly show whether maintaining a normal glucose reduces the incidence of that disease – or, indeed, whether it actually makes it worse. Without clear data, we might devote massive effort and resources to normalizing everyone's glucose only to find in 10 or 20 years that we had been doing exactly the wrong thing. The VA Diabetes Trial will address this question and attempt to

answer it. The 63 veterans at Richmond who are participating in this trial will, thus, make a contribution toward establishing an international standard of care.

Current VA research is also addressing therapies that we know are effective, but that are also difficult to apply in clinical practice. For example, I mentioned that well over half the heart attacks in this country happen to people who have either the metabolic syndrome or diabetes. The majority of these could be prevented if all the therapies we know to be effective were instituted to their maximum effect – lifestyle modifications, cholesterol and triglyceride lowering, blood pressure control, aspirin, beta blockers, ACE inhibitors, etc. The problem is how to apply these effective therapies to the large number of patients who would benefit from them. Our current research in care delivery at Richmond involves a pilot Metabolic Syndrome Clinic, in which a group of veterans with high heart attack risk has six visits at monthly intervals during which we identify and manage multiple cardiac risk factors simultaneously. Five hundred veterans have completed the full sequence of visits. One of our patients referred to this program as “metabolic syndrome boot camp,” but all of us have been impressed with its effectiveness. Over 70% of the patients have achieved their very stringent lipid and blood pressure goals. Everything we do in this clinic has long been known to reduce coronary risk, but in the country as a whole most people with high coronary risk do not fully benefit from these effective therapies because of the difficulty in delivering them to the large numbers involved. This is one of many areas in which VA functions as a laboratory for finding the best ways of delivering therapies which we know work.

Mr. Chairman and Members of the Subcommittee, I have tried to give a few examples of the spectrum of diabetes research in Richmond and to show you how it all flows directly from or to VA medical care, which is our primary focus. I will be happy to answer any of your questions. Thank you.